November 7, 1985

TO: Memo to File

FROM: James Leatherwood, Soils Specialist

RE: Utah International Final Reclamation, ACT/021/001, Iron County, Utah

On November 4, 1985, Kathy Mutz, Lynn Kunzler and James Leatherwood of the Division, accompanied by York Jones visited several sites at the Utah International mine. The first stop was a pit filled and regraded with material mined from an adjacent mine pit. Vegetation consisted of alfalfa, grasses and shrubs. Vegetation was drill seeded with no soil preparation or ammendments incorporated. This site was well vegetated.

The second site visited was the Comstock alluvial fan mine area. US Steel is currently active in the mine area directly to the west of the Utah International operation. Utah International is currently mining ore in the far east area. Utah International has reclaimed the area in the center of the active mine areas and the area directly north into the old alluvial fan. Three (3) test plots were visited on this site. Vegetation was very dense and in good health in the plot areas that protected vegetation from foraging animals. The vegetation cover and vigor in the southern plot was similar to open range. York Jones suggested that small foraging aninmals (rabbits) is causing the lower vegetative productivity. Low vegetative cover was evident on steep slopes in the reclaimed alluvial fan. Vegetation consisted mainly of rabbit brush and crested wheat. No soil preparation or ammendments were incorporated.

Driving north back to the office - operation area we passed US Steels Desert Mound refuse piles. Vegetation was poor with signs of excessive erosion. Approximately one (1) mile north and to the east we passed three (3) recaimed refuse piles. The two refuse piles to the east had a good stand of shrubs and grasses. The most recently recaimed refuse pile to the west of the other two refuse piles has a good visual success of grasses. Shrub success was poor. The third stop was the Low Grade No. 18 refuse pile. This

site was seeded but vegetation was below the 14 percent cover required for reclaimation success. Compaction was evident at a depth greater than four (4) inches. Sulfur and salt concentrations was evident on the surface. The material was a fine sandy loam in texture, with greater than 30 percent cobbles. Possible vegetative problems arise from the low pH generated by the pyritic sulfur.

The fourth site visited was the Smith No. 5 stockpile. Walt Ruzzo submitted a chemical analysis of the Smith No. 5 stockpile material on Oct. 29, 1985. The stockpile has a low pH of 3.9 and a high EC of 17 mmhos/cm. Sulfur and salts were evident on the surface of the stockpile. Cobble size limestone was present. The Division recommened that a fine mesh limestone be disked into the material before seeding takes place. The tailings pond was the next site visited. The growing medium consisted of coarse material nearest to the empoundment structure parting to fines at the opposite end. The fines is vegetated with tamarisk. The coarse material has virtually no vegetation. York Jones suggested that the seeds were blown off the coarse material as a result of frequent gusty winds and braodcaste seeding.

Low Grade No. 14 and 15 were also visited. These sites had the iron ore refuse material removed seven years ago. Revegetation took place four (4) years ago. A total of nine (9) acres did not meet the 14 percent vegetation cover required for reclamation success. To relieve compaction and prepare a good seedbed ripping the areas before seeding was suggested by the Division. The final site visited was the Walker Iron Placer. Mr. Jones stated that the county has bought the existing pit which they will use a a county landfill. The hillside area has virtually no signs of vegetation success. Soil erosion is severe with 10 percent bedrock formation exposure. The Division recommened that the area be braodcaste seeded and pressed in by a dozer walking perpindicular to the slope. The cleat marks made by the dozer would increase water retention.

jsl
cc: Lynn Kunzler
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